

Titanium Tetrachloride Production by the Chloride Ilmenite Process

I. EXECUTIVE SUMMARY

This document presents EPA's factual basis for proposing to withdraw a waste generated in the production of titanium tetrachloride by the chloride-ilmenite process from the RCRA Mining Waste Exclusion. The waste in question, titanium tetrachloride waste acids (which implicitly includes iron chloride), was one of numerous mineral processing wastes that was made conditionally exempt from RCRA Subtitle C requirements under the Bevill Amendment to RCRA, and later codified at 40 CFR Part 261.4(b)(7). In 1989, following a study of the nature and characteristics of this waste, EPA determined that titanium tetrachloride waste acids (and therefore iron chloride) did not qualify for the Mining Waste Exclusion.

In contrast to wastes from beneficiation operations, mineral processing wastes were required to meet two criteria in order to continue to qualify for the Mining Waste Exclusion: (1) the waste had to be a low hazard waste; and (2) it had to be generated in large volumes, defined as greater than 45,000 metric tons per year per facility for a solid waste or 1 million metric tons per year per facility for a liquid waste (averaged across the commodity sector). EPA's findings indicated that titanium tetrachloride waste acids exhibited the characteristic of EP toxicity for chromium, making them a hazardous waste, and were generated in annual volumes of less than 1 million metric tons per facility; therefore, the Agency concluded that titanium tetrachloride waste acids, implicitly including iron chloride, should be withdrawn from the Mining Waste Exclusion.

Du Pont, which is the sole generator of the iron chloride waste in question, filed a lawsuit against EPA claiming that its process was different than the conventional chloride process and, therefore, that its wastes (including iron chloride) should be considered separately for Bevill status. Du Pont claimed that EPA had ignored the information provided in Du Pont's written comments on several notices of proposed rulemaking addressing the Exclusion, and that the Agency had not provided an adequate justification for its decision. The federal D.C. Circuit Court of Appeals, in reviewing EPA's decision to withdraw titanium tetrachloride waste acids from the Mining Waste Exclusion, found that the Agency had not provided an adequate, reasonable justification in the public record to support its action.

The purpose of this technical background document is to provide a description of the Du Pont chloride-ilmenite process and the generation of the iron chloride waste, and to provide EPAs' evaluation of this the process. This evaluation serves as the technical basis for EPA's response to the Court's directives regarding the regulatory status of the iron chloride waste.